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CALIFORNIA FOREST AND RANGE
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FOREST STATISTICS FOR LAKE COUNTY,
OREGON FROM THE INVENTORY PHASE OF
THE FOREST SURVEY

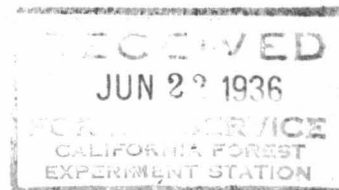
By F.L. Moravets

CALIFORNIA FOREST & RANGE EXPERIMENT STATION
330 GIANNINI HALL, UNIVERSITY OF CALIFORNIA
BERKELEY, CALIFORNIA

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
PACIFIC NORTHWEST FOREST EXPERIMENT STATION



ADDRESS REPLY TO
DIRECTOR
AND REFER TO



424 U. S. COURT HOUSE
MAIN AND SIXTH STREETS
PORTLAND, OREGON

R - NW
Forest Survey

June 19, 1936

Director,
California Forest & Range Experiment Station,
332 Giannini Hall,
Berkeley, Calif.

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no 51

Dear Sir:

A copy of "Forest Statistics for Lake County, Oregon", is enclosed. It is the ninth of a series of Forest Survey reports for the forested counties in eastern Oregon and eastern Washington and is similar to those already sent you. The explanatory text, "The Forest Survey of Eastern Oregon and Eastern Washington", which accompanied the first report should be referred to in connection with this report.

To date forest statistics have been published for all the counties in western Oregon and western Washington, for Klamath, Wasco, Jefferson, Harney, and Deschutes Counties in eastern Oregon, and for Yakima, Klickitat, and Chelan Counties in eastern Washington. Additional copies of these reports will be furnished upon request.

Very truly yours,

THORNTON T. MUNGER, Director

By

Donald M. Matthews
Acting

Enclosure

CALIFORNIA FOREST & RANGE EXPERIMENT STATION
330 GIANNINI HALL, UNIVERSITY OF CALIFORNIA
BERKELEY, CALIFORNIA

CALIFORNIA FOREST AND RANGE
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FOREST STATISTICS FOR LAKE COUNTY, OREGON

FROM THE INVENTORY PHASE OF THE FOREST SURVEY

Forest Survey report no. 517

*99.54
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no. 51*



U. S. DEPARTMENT OF AGRICULTURE FOREST SERVICE
PACIFIC NORTHWEST FOREST EXPERIMENT STATION
THORNTON T. MUNGER, DIRECTOR

H. J. ANDREWS, IN CHARGE OF FOREST SURVEY R. W. COWLIN, ASSISTANT
F. L. MORAVETS, IN CHARGE OF FIELD AND OFFICE WORK
IN LAKE COUNTY

PORTLAND, OREGON

MAY 28, 1936







CALIFORNIA FOREST & RANGE EXPERIMENT STATION
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BERKELEY, CALIFORNIA

FIGURE 1

OUTLINE MAP
OF
LAKE COUNTY OREGON

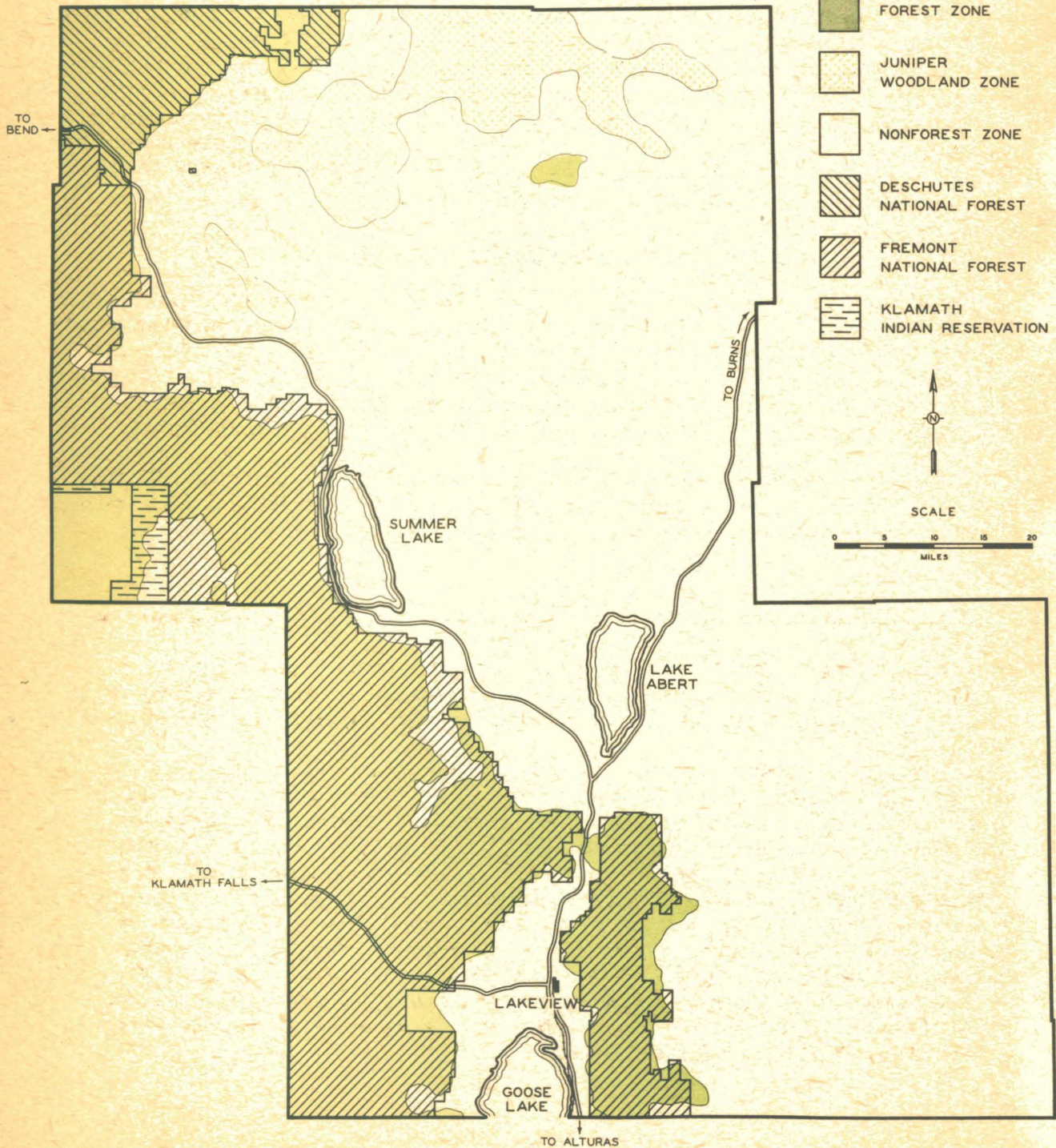
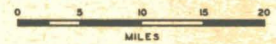
1936

LEGEND

-  FOREST ZONE
-  JUNIPER WOODLAND ZONE
-  NONFOREST ZONE
-  DESCHUTES NATIONAL FOREST
-  FREMONT NATIONAL FOREST
-  KLAMATH INDIAN RESERVATION



SCALE



FOREST STATISTICS FOR LAKE COUNTY, OREGON

By F. L. Moravets^{1/}

The commercial forests of Lake County, Oregon, although occupying only 19.5 percent of the total land area of the county, are its richest natural resource and, through their exploitation, are playing an important role in its economic development. They have a total merchantable saw-timber volume of 11 billion board feet and are predominantly ponderosa pine, this species composing 89 percent of the total volume. These are some of the facts brought out in the inventory of the forests of the county made in 1934 and 1935 by the Forest Service as a part of the national survey of forest resources.^{2/} The basic results of this inventory are summarized in this report. For a detailed discussion of the methods of the survey and definitions of forest types the explanatory text, "The Forest Survey of Eastern Oregon and Eastern Washington", should be read.

Location and Description of County

Lake County is situated in the south-central portion of Oregon and is the third largest county in the State, having a total land area of approximately 5,068,800 acres. It lies within the Great Basin and has all of the characteristic features of that great physiographic province. The character of the topography, geological structure, drainage, soils, and vegetative cover of the county is similar to that found throughout the Great Basin.

The county's surface is a high plateau broken by a series of long parallel mountain ranges, trending from north to south and separated by wide plains. Most of the ranges are narrow and have sharp crests or rims with

^{1/} THE FIELD AND OFFICE WORK OF THE FOREST SURVEY OF LAKE COUNTY WAS DONE BY F. L. MORAVETS, PAUL D. KEMP, P. N. PRATT, H. M. WOLFE, M. J. LAURIDSEN, R. W. TAYLOR, L. E. TUCKER, A. W. THRANE, V. H. HARLESS, C. S. SMITH, N. R. EDMONDSON, A. W. HODGMAN, AND F. H. VOGEL.

^{2/} OREGON AND WASHINGTON WERE DIVIDED FOR PURPOSES OF THE SURVEY INTO TWO REGIONS, (1) THE DOUGLAS FIR REGION, CONSISTING OF THAT PART OF BOTH STATES WEST OF THE SUMMIT OF THE CASCADE RANGE, AND (2) EASTERN OREGON AND EASTERN WASHINGTON, THAT PART OF BOTH STATES EAST OF THE SUMMIT OF THE CASCADE RANGE. EACH REGION WAS DIVIDED INTO FOREST SURVEY UNITS COMPOSED OF ONE OR MORE COUNTIES. AT A LATER DATE A REPORT WILL BE ISSUED FOR EACH SURVEY UNIT PRESENTING A TEXTUAL DESCRIPTION OF THE UNIT, DETAILED INVENTORY SUMMARIES, AND STATISTICS OF GROWTH AND DEPLETION ANALYZED IN THE LIGHT OF THE INVENTORY. FINALLY, A REGIONAL REPORT WILL BE ISSUED WHICH WILL SUMMARIZE THE UNIT REPORTS, PRESENTING AND DISCUSSING FINDINGS FOR THE REGION AS A WHOLE. THE REGIONAL REPORT WILL INCLUDE AN INTERPRETATION OF THE FOREST SURVEY DATA AS RELATED TO OTHER ECONOMIC DATA AND A COMPREHENSIVE ANALYSIS OF THE REGIONAL FOREST SITUATION FROM BOTH A PHYSICAL AND AN ECONOMIC STANDPOINT.

very steep slopes on one side and long gentle slopes on the other. This unusual geological formation is the result of block faulting in which a portion of the earth's surface is tilted, the uplifted edge forming a precipitous scarp and the surface of the faulted block forming a long gentle slope. Several of these scarps formed by this faulting in the county are unusually prominent. Abert Rim, the highest, is one of the largest faults on the earth's surface, while Summer Lake Rim, Deadhorse Rim, and Warner Rim are scarps of large proportions.

Elevations in the county range from 4,178 feet at Summer Lake to 8,446 feet, the crest of Crane Mountain. The valleys range in elevation from 4,200 to 4,900 feet and the crests of the several ranges average from 6,000 to 8,000 feet in height.

Drainage of all of the county's surface, with the exception of a small area along the western boundary, is of the interior-basin type in which the streams from the forested mountainous areas descend to the dry porous valley floors where most of the water is lost by absorption and evaporation, the remainder entering depressions to form shallow salt or alkaline lakes. There are many lakes of this type in the county, the water levels of which fluctuate widely in response to changes in precipitation in the drainage basins. Because of the dry cycle of recent years, overgrazing of the vegetative cover, and the diversion of the flow of tributary streams for irrigation purposes, practically all of these shallow lakes have become dry or nearly so. Goose Lake, which is partly in Lake County and partly in Modoc County, California, was at one time thirty miles long and from four to nine miles wide. In recent years it has been either entirely dry or contained only a small amount of water. Summer Lake and Lake Abert, other large lake beds, have had little water in them in recent years, although the former is fed by the Ana River, and the latter by the Chewaucan River, both perennial streams. Silver Lake in the northwestern portion of the county at one time covered a considerable area but has been entirely dry for the past two decades. In Warner Valley in the eastern portion there is a string of several lakes all of which fluctuate greatly. The only lakes in the county not subject to wide variation in water level are small ones in the forested region.

Two streams, Sprague River and Sycan River, have their headwaters in the western portion and carry the only water from the county that reaches the ocean through surface drainage.

The county is a region of scanty precipitation; in most of the northern half the average annual precipitation is under 10 inches while in the southern half the average is from 10 to 20 inches. The amount of precipitation is the most important single factor in determining the character of the vegetation and in dividing the county's area into three vegetative zones: the nonforest zone, the juniper woodland zone, and the forest zone (figure 1).

Nonforest Zone

The nonforest zone occupies roughly the eastern two-thirds of the county and, in addition, two small areas surrounded by the forest zone. It is comprised of the lower-lying tablelands and valleys. Precipitation is very light over a large portion of it and desert conditions exist. Originally bunch grass was found throughout the zone but unregulated grazing by sheep, horses, and cattle and the dry cycle of recent years have greatly reduced the occurrence of this excellent forage over most of the area. Areas of arable land now under cultivation occur in the valleys. The most extensive of these are in the south-central portion north of Goose Lake, in Warner Valley, in Chewaucan Valley, near Summer Lake, and northwest from Silver Lake.

Of the total area of nonforest land in the county of 3,678,155 acres (table 4) all but about 5 percent is in the nonforest zone, the remainder consists of small openings in the forest or juniper woodland zones.

Juniper Woodland Zone

Western juniper is found in small scattered stands throughout most of the county, but in only two locations does it occur over a large enough area to form a distinct zone. These two areas are in the northern part of the county, one being of considerable extent and the other small. The juniper stands in these zones are usually composed of short and bushy trees from 5 to 25 feet in height and with rough poorly-formed boles of use only for fuel wood or fence posts.

The volume in cords of juniper in the county is shown by ownership class in the lower part of table 1 and the acreage of the two juniper types in table 2. Three-fourths of the cordwood volume occurs on the public domain and the same proportion of the total acreage of juniper types is in that ownership class.

Forest Zone

The forest zone lies in the western portion of the county, occupying the higher and better-watered mountainous terrain. It reaches the length of the county from north to south and varies in width from 2 to 38 miles. The continuity of the zone is broken by only two large bodies of nonforest land, Goose Lake Valley and Sycan Marsh; other areas of nonforest land within it are of small size.

The zone is almost entirely within the boundaries of the Fremont National Forest and the Deschutes National Forest, their boundaries in this county following closely the lower limits of forest growth. A small portion is within the Klamath Indian Reservation.

Forest Types

Although the elevation of the dry timber line, or lower limits of tree growth, varies considerably throughout the county, it is generally between 4,900 and 5,000 feet. The boundary between the forest zone and the

open desert is usually well defined, the stands along the fringe as a rule not being as sparsely stocked as in many parts of the ponderosa pine region of eastern Oregon and eastern Washington.^{3/}

Ponderosa pine, the predominant species in the county, extends from the lower limits of tree growth to elevations of over 7,000 feet, its upper limits depending on the exposure. It is found throughout the forest zone occurring as pure stands except on the moister northern exposures, upper slopes, and along streams courses. Of the total area of 1,390,645 acres of forest cover types in the county (table 2) over half, 56 percent, is occupied by pure ponderosa pine saw-timber stands and 69 percent by mature or immature stands in which ponderosa pine is the most important species. In the mixed pine stands white fir is the usual associate, although incense cedar is quite commonly a component in the southern part of the forest zone. Sugar pine and lodgepole pine sometimes occur in the mixture. Stands in which ponderosa pine is absent or nearly so occur on the upper slopes of the higher mountains and on some of the dryer sandy flats. The stands on the upper slopes are composed of white fir, either pure, or associated with western white pine, lodgepole pine, and occasionally mountain hemlock. The sandy flats support a rather densely stocked stand of lodgepole pine that seldom reaches saw-timber size.

The ponderosa pine of Lake County is of good quality, being comparable to that found throughout most of the pine region of eastern Oregon. Mature stands are usually of uniform density and have a merchantable saw-timber volume of from 8 to 18 thousand board feet per acre, with an average for the county of about 12 thousand feet. The western pine beetle (Dendroctonus brevicomis) has in recent years materially reduced the stands in several parts of the forest zone.

The acreage of immature ponderosa pine stands is small in comparison with that of the mature stands. Of the total area of immature stands of saw-timber size about 53 percent is the result of fires and the remainder is of residual stands left after selective logging. Approximately two-thirds of the acreage of the selectively logged stands is in private ownership. The volume of these residual stands ranges from 1 to 5 thousand board feet per acre, the average being between 1 and 2 thousand feet.

Of the stands of less than saw-timber size only 35 percent has come in on burns and 65 percent is on cutover land. These areas of cutover land carry a residual stand of less than 1 thousand board feet per acre and are very largely in private ownership. The acreage of nonstocked cutover land is relatively small, approximately 5,000 acres.

^{3/} THE LOCATION AND EXTENT OF THE FOREST TYPES ARE SHOWN TO BEST ADVANTAGE BY THE ONE-INCH-TO-THE-MILE FOREST SURVEY TYPE MAP OF THE COUNTY. FULL INFORMATION REGARDING THE COUNTY TYPE MAPS AND THE LITHOGRAPHED STATE TYPE MAPS AND HOW THEY MAY BE OBTAINED WILL BE FURNISHED UPON REQUEST.

The mixed stands of white fir, western white pine, lodgepole pine, and mountain hemlock are of little value commercially as they are usually inaccessible and the quality of the timber low. However, they are of considerable value for watershed protection. The same is true of the pure lodgepole pine stands most of which contain trees from 6 to 10 inches d.b.h.

The 13,460 acres of deforested burns amounts to 1 percent of the total area of forest land in the county. A large part of this acreage is in one area covered by the Mill Creek Fire of 1928 and the Cox Creek Fire of 1931.

Productive Capacity of the Forest Land

The classification of the forest land in the county by site quality, or its ability to produce forest growth, is shown in table 4. All but 3,200 acres of the forest land now supporting a coniferous forest growth of commercial importance was rated by the survey according to the ponderosa pine site classification. Nearly three-fourths of the acreage so classified is in site quality class IV, the average pine site for eastern Oregon.

Ownership of Forest Land

Approximately two-thirds, 68 percent, of the total area of forest land in the county is in public ownership, 30 percent is privately owned, and 2 percent is owned by the Klamath Indians. However, a larger portion, 37 percent, of the acreage of merchantable saw timber is privately owned, 61 percent is in public ownership, and 2 percent is owned by the Indians.

Volume of Merchantable Saw Timber

The 11 billion board feet of merchantable saw timber in the county (table 1) is very largely of ponderosa pine, the volume of this species being 89 percent of the total. The only other species of importance from a volume standpoint is white fir which is 8 percent of the total. Most of the remainder is lodgepole pine. The merchantable volume of the two hardwood species, aspen and black cottonwood, occurs in scattered trees along streams courses and is therefore of no commercial importance.

Ownership of Merchantable Timber

Approximately 41 percent of the total volume of saw timber in the county is in private ownership, 56 percent is in national forest ownership, and the remainder is mostly owned by the Klamath Indians. Most of the privately owned timber is of good quality, averaging much better than that publicly owned, and is readily accessible to market. The private holdings are as a rule in compact units.

Insect Damage

Although a considerable volume of ponderosa pine has been killed in the county in recent years by the western pine beetle, the infestations reach-

ed the epidemic stage in only a few locations. The heaviest losses were in Fort Rock district in the northern part of the county and in the Quartz Mountain district in the southwestern part. The beetle has been active in other parts of the county but to a lesser degree. Losses were greatest during the three years 1931, 1932, and 1933, during which period it is estimated that the total loss in the area tributary to Lakeview was 150 million board feet. However, during the winter of 1932-1933 there were several periods of extremely low temperature and the epidemic was materially checked, the loss in 1933 being much less than during the two previous years. Since 1933 losses over practically all of the county have been normal. During the three year period, from 35 to 50 percent of the pine over quite extensive areas in the Fort Rock and Quartz Mountain districts was killed, and the average loss for the county was about 12 percent. The Warner district in the south-central portion of the county has suffered very little so far from beetle infestations, the loss averaging about 2 percent during this period.

Economic Development

The forage resources of Lake County were the first to be exploited, and from the earliest settlement by the white men up to the last 10 or 15 years, the principal industry in the county was stock-raising. The forage, largely of bunch grass, was sufficient to support a large number of sheep, cattle, and horses. The open ranges of tablelands and valleys provided winter and spring grazing; there was abundant feed in the forest areas during the summer months; and the meadowlands in the valleys furnished wild hay for winter feeding. However, the excessive and unregulated grazing of the open range on the public domain gradually depleted the forage until now a very large part of the range has no vegetative cover other than sagebrush or greasewood. The drought of recent years has been a contributing factor in this change. The forage in the forests has fared much better because of regulated grazing since the establishment of the national forests, and under proper management will continue to furnish summer grazing for a large number of sheep and cattle. The ranges on the public domain are now being placed under grazing management but they are so badly depleted that it will take many years to bring them back.

The second step in the development of the county was the use of the arable lands in the valleys for the production of grain, tame hay, and speciality crops. Of the several farming communities that were established only those that have had sufficient water for irrigation have persisted. Several have been abandoned. Especially is this true in the northern part of the county in the vicinity of Fort Rock. A large acreage was homesteaded in this district some thirty years ago, but by 1916 the drought had driven most of the settlers out and today practically all of the area is a desert.

In 1930 the area in farms was, according to the Bureau of the Census, 749,788 acres, of which 150,245 acres, or about 20 percent, was in use for general farming, grain crops, or specialty crops; the remainder was in stock ranches.

It was not until the last eight or ten years that the exploitation of the forest resources began to play an important part in the economic development of the county. Prior to this there were a few small sawmills operating in the vicinity of Lakeview but their output was mostly for local use. Transportation facilities for freight movement were poor as the only rail outlet was a narrow gauge road, the Nevada, California, and Oregon Railroad, a branch of the Southern Pacific, that connected with the main line at Reno, Nevada. In 1925 there were 6 active mills with a total production of a little over 5 million board feet.^{4/} However, in 1928 and 1929 several new mills began operations and the production during the latter year was approximately 30 million feet. The movement of lumber was greatly facilitated by the conversion of the railroad from Alturas to Lakeview to a standard gauge in 1928 and the building of a cut-off from Alturas to Klamath Falls in 1929 by the Southern Pacific.

The cut dropped to 7 million feet in 1931 but during the following year rose to 20 million feet and was increased to over 49 million feet during 1933 and 1934. The average annual lumber production for the 10-year period from 1925 to 1934, inclusive, was 21,622 thousand board feet. In 1934 there were 11 active mills in the county with a combined 8-hour capacity of 459 thousand feet and, in addition, 4 idle mills with a total capacity of 105 thousand feet.

Prior to 1932 several of the mills were located in the forest immediately adjacent to the logging operations. Now all but one of the active mills are in Lakeview and the logs are trucked to them. Logging operations are very largely in private timber and most of them within a 20 mile radius of Lakeview.

There are no operations in the northern part of the county at present, although a considerable volume of timber is owned in the Fort Rock district by the two large operating companies in Bend. The timber in this part of the county will no doubt be milled in Bend. A large company is operating in the Quartz Mountain district in private and national forest timber, hauling their logs to Klamath Falls by rail over the Oregon, California, and Eastern Railroad, which taps Lake County from the west.

The rapid expansion of the lumber industry during the past five years has brought about a considerable growth of Lakeview, the county seat and only town of any size in the county. In 1930 the population of the town was 1,799, an increase of nearly 60 percent over that of 1920. The increase since 1930 has no doubt been at an even greater rate. The population of the county in 1930 was 4,833 and 3,991 in 1920.

^{4/} ALL FIGURES ON PRODUCTION OF LUMBER IN THE COUNTY ARE FROM REPORTS TO THE BUREAU OF THE CENSUS.

Considering the total amount of timber in Lake County, the annual cut for the 1933-34 period is not in excess of the sustained yield capacity of the county's forest land. However, the timber on areas, which because of location and ownership are tributary to the mills in or near Lakeview, is now being cut at a rate about equal to the sustained yield capacity of these areas. Therefore any increased cut should come from the northern and western portions of the county in timber that will undoubtedly be milled in either Bend or Klamath Falls. To date logging operations in these parts of the county have been limited but it is probable that several new operations will be begun in a few years and the cut will undoubtedly exceed the sustained yield capacity of these areas.

FOREST STATISTICS FOR LAKE COUNTY, OREGON
FROM INVENTORY PHASE OF FOREST SURVEY

TABLE 1. VOLUME OF TIMBER BY SPECIES AND BY OWNERSHIP CLASS
DATA CORRECTED TO AUGUST 1, 1935

TREES 12" AND MORE IN D.B.H.
THOUSANDS OF BOARD FEET, LOG SCALE, SCRIBNER RULE

SUR- VEY SYM- BOL :	SPECIES ^{1/}	STATE				FEDERAL				TOTAL
		PRIVATE	AVAILABLE	RESERVED	COUNTY	INDIAN,	PUBLIC	RAILROAD	NATIONAL	
			FOR	FROM		TRIBAL AND	DOMAIN	SELECTION	FOREST,	
			CUTTING	CUTTING		TRUST	ALLOTMENT	PENDING	AVAILABLE	
Y :	PONDEROSA PINE	3,905,940	21,554	180	5,201	228,131	38,629	3,277	5,641,610	9,844,522
SP :	SUGAR PINE	22,344				4,046			5,153	31,543
W :	WESTERN WHITE PINE	3,467	208		35	984	14		28,842	33,550
LP :	LOGSPOLE PINE	55,682	1,211		45	754	20	20	109,425	167,157
IC :	INCENSE CEDAR	25,861	30						30,481	56,372
MH :	MOUNTAIN HEMLOCK	215				1,828			6,770	8,813
WF :	WHITE FIR	533,705	3,239		609	19,545	446	51	361,482	919,077
BC :	NORTHERN BLACK COTTONWOOD	10							60	70
ASP :	ASPEN	265							10	275
TOTAL		4,547,469	26,242	180	5,890	255,288	39,109	3,348	6,183,833	11,061,379

VOLUME OF CORDWOOD SPECIES
TREES 4" OR MORE IN DIAMETER 1' ABOVE GROUND
CORDS

WJ :	WESTERN JUNIPER	54,865	6,797		10,473		338,958		29,693	440,786
MM :	MOUNTAIN MAHOGANY	1,591	85		35		400		2,025	4,136
TOTAL		56,456	6,882		10,508		339,358		31,718	444,922

^{1/} IN ADDITION TO THE SPECIES LISTED WHITEBARK PINE IS KNOWN TO OCCUR IN THE COUNTY, BUT IN A NEGLIGIBLE QUANTITY.

FOREST STATISTICS FOR LAKE COUNTY, OREGON
FROM INVENTORY PHASE OF FOREST SURVEY

TABLE 2. AREA, IN ACRES, OF ALL FOREST COVER TYPES, BY OWNERSHIP CLASS
DATA CORRECTED TO AUGUST 1, 1935

SUR- VEY TYPE NO.	TYPE DEFINITION	STATE				COUNTY	FEDERAL				TOTAL
		PRIVATE	AVAILABLE	RESERVED	INDIAN, TRIBAL AND TRUST ALLOTMENT		PUBLIC DOMAIN	RAILROAD	NATIONAL		
			FOR CUTTING	FROM CUTTING				SELECTION	FOREST, AVAILABLE FOR CUTTING		
5A	WOODLAND: DENSE JUNIPER: JUNIPER OR MOUNTAIN MAHOGANY FORESTS OCCUPYING 10% OR MORE OF THE LAND AREA	6,560	570		1,805		49,265		595	58,795	
5B	SCATTERED JUNIPER: JUNIPER OR MOUNTAIN MAHOGANY FORESTS OCCUPYING 5 TO 10% OF THE LAND AREA	21,835	3,755		2,095		109,475		13,050	150,210	
5 1/2	PONDEROSA PINE WOODLAND: SCATTERED STANDS OF MATURE PONDEROSA PINE ON UNFAVORABLE SITES	11,990	640		565	260	4,655		17,430	35,540	
20	PONDEROSA PINE: FORESTS CONTAINING 50% OR MORE OF PONDEROSA PINE PONDEROSA PINE, LARGE: FORESTS CONTAINING 50 TO 80% OF PONDEROSA PINE, MORE THAN 22" DBH	8,880	315		30	1,335	70		29,900	40,530	
20.5	PURE PONDEROSA PINE, LARGE: FORESTS CONTAINING 80% OR MORE OF PONDEROSA PINE, MORE THAN 22" DBH	293,840	1,360	30	605	14,695	4,825	220	462,145	777,720	
20A	PONDEROSA PINE-SUGAR PINE MIXTURE, LARGE: FORESTS CONTAINING 50% OR MORE OF PONDEROSA PINE AND 20% OR MORE OF SUGAR PINE, MORE THAN 22" DBH	1,650				350			880	2,880	
21	PONDEROSA PINE, SMALL: 12 TO 22" DBH	17,835	80	15	395		735		29,000	48,060	
22	PONDEROSA PINE SEEDLINGS, SAPLINGS, AND POLES: LESS THAN 12" DBH	26,190	195		800		360		11,755	39,300	
20B	SUGAR PINE MIXTURE, LARGE: FORESTS CONTAINING 20% OR MORE OF SUGAR PINE AND LESS THAN 50% PONDEROSA PINE, MORE THAN 22" DBH								95	95	
	PINE MIXTURE: MIXED FORESTS CONTAINING 20 TO 50% OF PONDEROSA PINE										
27	PINE MIXTURE, LARGE: 12" OR MORE DBH	4,505	75		105		5		7,490	12,180	
28	PINE MIXTURE, SMALL: LESS THAN 12" DBH	450							145	595	
	UPPER-SLOPE MIXTURE: MIXED FORESTS OF WHITE FIR, WESTERN WHITE PINE, LODGEPOLE PINE, MOUNTAIN HEMLOCK, SUGAR PINE, OR YELLOW PINE										
27 1/2	UPPER-SLOPE MIXTURE, LARGE: 12" OR MORE DBH	915	85			65			5,105	6,170	
29 1/2	UPPER-SLOPE MIXTURE, SMALL: LESS THAN 12" DBH								310	310	
	WHITE FIR: FORESTS CONTAINING 50% OR MORE OF WHITE FIR										
29	WHITE FIR, LARGE: 12" OR MORE DBH	1,080			30	145			2,605	3,860	
30	WHITE FIR, SMALL: LESS THAN 12" DBH	130			120		20		670	940	
	LODGEPOLE PINE: FORESTS CONTAINING 50% OR MORE OF LODGEPOLE PINE										
25	LODGEPOLE PINE, LARGE: 12" OR MORE DBH	220					20		12,245	12,485	
26	LODGEPOLE PINE, MEDIUM: 6 TO 10" DBH	20,095	715		15	3,465	180		118,600	143,070	
26A	LODGEPOLE PINE, SMALL: LESS THAN 6" DBH	125							3,720	3,845	
	HARDWOOD: FORESTS CONTAINING 50% OR MORE OF ASPEN AND NORTHERN BLACK COTTONWOOD										
31.5	HARDWOOD, LARGE: 12" OR MORE DBH	95								95	
31	HARDWOOD, SMALL: LESS THAN 12" DBH	1,315	55				45	5	4,880	6,300	
33	SUBALPINE: FORESTS AT UPPER LIMITS OF TREE GROWTH, USUALLY UNMERCHANTABLE NONRESTOCKED CUTOVERS: LOGGED AREAS NOT SATISFACTORILY RESTOCKED AND NOT CARRYING A RESIDUAL STAND OF 1 M OR MORE PER ACRE	145			120	880	35		6,815	7,995	
35A	CUT SINCE BEGINNING OF 1920	4,770			40				80	4,890	
35B	CUT BEFORE 1920	105								105	
37	DEFORESTED BURNS: ANY NONRESTOCKED BURN, NOT CUTOVER	2,285	5				650		10,520	13,460	
37B	AREAS ON WHICH STAND HAS BEEN KILLED BY INSECTS	25							395	420	
38	NONCOMMERCIAL ROCKY AREAS	465	540		25		15,400		4,365	20,795	
	TOTALS FOR FOREST LAND	425,505	8,390	45	6,750	21,195	185,740	225	742,795	1,390,645	
1 & 2	NONFOREST LAND: CULTIVATED, GRASS, SAGEBRUSH, BARRENS, CITIES, UNMEASURED WATER SURFACES, ETC.							60	176,730	3,678,155	
	TOTALS FOR COUNTY							285	919,525	5,068,800	

1/ THE TOTAL AREA OF THE COUNTY, ACCORDING TO THE BUREAU OF THE CENSUS, IS 5,068,800 ACRES. OF THIS TOTAL, 1,567,435 ACRES WAS CLASSIFIED AS TO OWNERSHIP BY THE FOREST SURVEY.

FOREST STATISTICS FOR LAKE COUNTY, OREGON
FROM INVENTORY PHASE OF FOREST SURVEY

TABLE 3. AREA, IN ACRES, OF GENERALIZED FOREST TYPES, BY OWNERSHIP CLASS
DATA CORRECTED TO AUGUST 1, 1935

TYPE DEFINITION	STATE			COUNTY	FEDERAL					TOTAL
	PRIVATE	AVAILABLE FOR CUTTING	RESERVED FROM CUTTING		INDIAN, TRIBAL AND TRUST ALLOTMENT	PUBLIC DOMAIN	RAILROAD SELECTION PENDING	NATIONAL FOREST, AVAILABLE FOR CUTTING		
WOODLAND: JUNIPER										
SURVEY TYPES 5A AND 5B	28,395	4,325		3,900		158,740		13,645	209,005	
HARDWOOD: ASPEN AND NORTHERN BLACK COTTONWOOD										
SURVEY TYPES 31 AND 31.5	1,410	55				45	5	4,880	6,395	
PONDEROSA PINE AND SUGAR PINE 12" OR MORE DBH										
SURVEY TYPES 5½, 20, 20.5, 21, 27, 20A, AND 20B	338,700	2,470	45	1,700	16,640	10,290	220	546,940	917,005	
PONDEROSA PINE AND SUGAR PINE LESS THAN 12" DBH	ON CUTOVER AREAS	23,580	110		135		125		26,050	
	ON OLD BURNS	3,060	85		665		235		13,845	
SURVEY TYPES 22 AND 28	TOTAL	26,640	195		800		360		39,895	
CONIFERS 12" OR MORE DBH OTHER THAN PONDEROSA PINE, SUGAR PINE, AND LODGEPOLE PINE										
SURVEY TYPES 27½ AND 29	1,995	85		30	210			7,710	10,030	
CONIFERS LESS THAN 12" DBH OTHER THAN PONDEROSA PINE, SUGAR PINE, AND LODGEPOLE PINE	ON CUTOVER AREAS	120			95		20		810	
	ON OLD BURNS	10			25				440	
SURVEY TYPES 28½ AND 30	TOTAL	130			120		20		1,250	
LODGEPOLE PINE 12" OR MORE DBH										
SURVEY TYPE 25	220					20		12,245	12,465	
LODGEPOLE PINE LESS THAN 12" DBH										
SURVEY TYPES 26 AND 26A	20,220	715		15	3,465	180		122,320	146,915	
NONCOMMERCIAL										
SURVEY TYPES 33 AND 38	610	540		145	880	15,435		11,180	28,790	
NONRESTOCKED CUTOVERS, DEFORESTED BURNS, AND AREAS ON WHICH STANDS HAVE BEEN KILLED BY INSECTS										
SURVEY TYPES 35A, 35B, 37, AND 37B	7,185	5		40		650		10,995	18,875	
TOTALS FOR FOREST LAND	425,505	8,390	45	6,750	21,195	185,740	225	742,795	1,390,645	
NONFOREST LAND										
SURVEY TYPES 1 AND 2	3,501,365 ACRES OF NONFOREST LAND UNCLASSIFIED BY OWNERSHIP						60	176,730	3,678,155	
TOTALS FOR COUNTY							285	919,525	5,068,800	

1/ THE TOTAL AREA OF THE COUNTY, ACCORDING TO THE BUREAU OF THE CENSUS, IS 5,068,800 ACRES. OF THIS TOTAL, 1,567,435 ACRES WAS CLASSIFIED AS TO OWNERSHIP BY THE FOREST SURVEY.

FOREST STATISTICS FOR LAKE COUNTY, OREGON
FROM INVENTORY PHASE OF FOREST SURVEY

TABLE 4. AREA OF FOREST LAND, BY SITE QUALITY
DATA CORRECTED TO AUGUST 1, 1935

TYPE	SITE QUALITY CLASS ^{1/}	ACRES	AREA			
			PERCENTAGE OF—			
			CONIFEROUS :			
			FOREST LAND :	TOTAL :	FOREST :	TOTAL
			CLASSIFIED :	LAND ^{2/}	AREA OF	COUNTY
			AS TO SITE :	QUALITY :		
PONDEROSA PINE, PONDEROSA PINE MIXTURE, SUGAR PINE MIXTURE, AND WHITE FIR	PONDEROSA PINE	III :	7,430 :	0.8 :	0.6 :	0.1
		IV :	721,980 :	73.1 :	51.9 :	14.2
		V :	250,540 :	25.4 :	18.0 :	5.0
		VI :	3,905 :	0.4 :	0.3 :	0.1
			983,855 :	99.7 :	70.8 :	19.4
UPPER-SLOPE MIXTURE	DOUGLAS FIR	IV :	3,200 :	0.3 :	0.2 :	0.1
			3,200 :	0.3 :	0.2 :	
TOTAL			987,055 :	100.0 :	71.0 :	19.5
LOGEPOLE PINE			159,400 :		11.5 :	3.1
JUNIPER			209,005 :		15.0 :	4.1
NONCOMMERCIAL ROCKY AREAS			20,795 :		1.5 :	0.4
SUBALPINE			7,995 :		0.6 :	0.2
HARDWOOD			6,395 :		0.4 :	0.1
TOTAL			403,590 :		29.0 :	7.9
GRAND TOTAL FOREST LAND			1,390,645 :		100.0 :	27.4

^{1/} THE "SITE QUALITY" OF A FOREST AREA IS ITS RELATIVE PRODUCTIVE CAPACITY, DETERMINED BY CLIMATIC, SOIL, TOPOGRAPHIC, AND OTHER FACTORS. THE INDEX OF SITE QUALITY IS THE AVERAGE HEIGHT OF THE DOMINANT STAND AT THE AGE OF 100 YEARS. SIX SITE QUALITY CLASSES ARE RECOGNIZED FOR PONDEROSA PINE AND FIVE FOR DOUGLAS FIR, CLASS I BEING IN EACH CASE THE HIGHEST. IN THE SURVEY THE PONDEROSA PINE AND DOUGLAS FIR CLASSIFICATIONS, RESPECTIVELY, WERE USED NOT ONLY FOR TYPES OF WHICH THESE SPECIES ARE CHARACTERISTIC COMPONENTS BUT FOR OTHER TYPES FOR WHICH NO SITE QUALITY CLASSIFICATIONS HAVE BEEN DEVELOPED.

^{2/} THE COUNTY HAS A TOTAL AREA OF 5,068,800 ACRES (ACCORDING TO THE REPORT OF THE BUREAU OF THE CENSUS FOR 1930), OF WHICH 1,390,645 ACRES (27.4) IS FOREST LAND AND 3,678,155 ACRES (72.6 PERCENT) IS NONFOREST LAND.

FOREST STATISTICS FOR LAKE COUNTY, OREGON

FROM INVENTORY PHASE OF FOREST SURVEY

FIGURE 2. DISTRIBUTION OF SAW-TIMBER VOLUME BY SPECIES AND OWNERSHIP CLASSES (FROM TABLE 1)

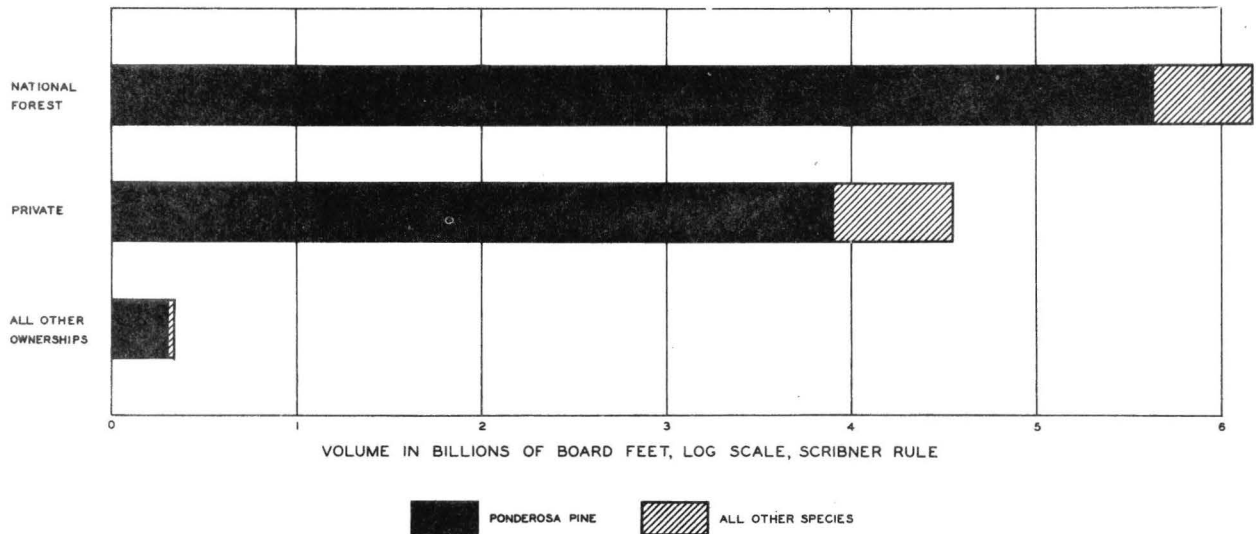


FIGURE 3. OWNERSHIP OF FOREST LAND (FROM TABLE 2)

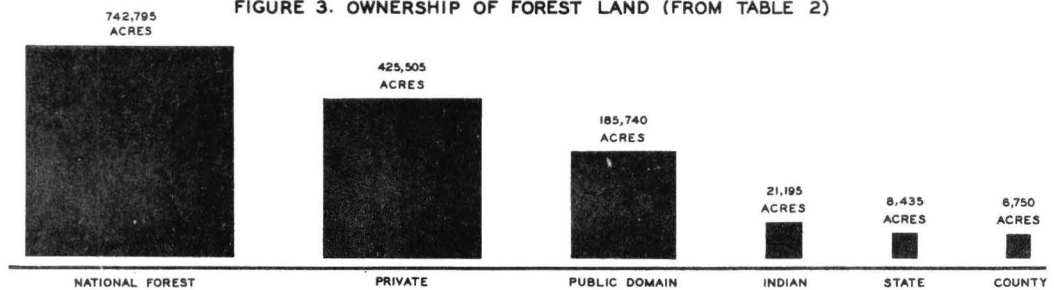


FIGURE 4. DISTRIBUTION OF FOREST LAND BY GENERALIZED TYPES, ALL OWNERSHIP CLASSES (FROM TABLE 3)

